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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PATEL, NIRAV B	
ART UNIT	**PAPER NUMBER**
2135	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/975,382	VAN DER VLEUTEN ET AL.	
	Examiner	Art Unit	
	Nirav Patel	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 21 December 2006 (Amendment).

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment filed on December 21, 2006 has been entered. Claims 1-19 are pending. Claims 1, 5, 9, 10, 11, 13 and 15 are amended by the applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5-7, 9-11, 13-16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (US Patent No. 6,148,288) in view of Nishiwaki et al (US Patent No. 5,892,848) and in view of Simon et al (US Patent No. 4,918,523).

<u>As per claim 1</u>, Park teaches:

coding the object to obtain a bit-stream having multiple coded parts [Fig. 2, 3, col. 3 lines 24-47, col. 4 lines 18-32], generating quality information (i.e. side information) which indicates distortion of the object [Fig. 3 lines 44-47], and adding quality information, such that the quality information is situated throughout the bit-stream [Fig. 3, col. 4 lines 22-32].

Park teaches the side information, which includes quantization bit information (i.e. the quality information which indicates distortion of the object) [col. 3 lines 44-46] and the quantization bit information allotted to each band in the bitstream [col. 4 lines 45-47].

Nishiwaki teaches headers and data parts [Fig. 6B] and the headers include the quality information (e.g. quantization bit) [col. 6 lines 46-51].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Nishiwaki with Park, since one would have been motivated to arrange the data for transmitting and storing in the case of a large amount of digital data [Nishiwaki, col. 1 lines 7-8].

Park teaches generating the side information, which includes quantization bit information (i.e. the quality information which indicates distortion of the object) [col. 3 lines 44-46] and the side information is utilized during the decoding process [col. 4 lines 45-54]. Park doesn't expressively mention the quantization information (i.e. quality information) is associated with the bitstream truncation during the decoding.

However, Simon teaches the quantization information, included into the header portion of the bitstream [Fig. 44, col. 20 lines 32-35], is associated with splitting and decoding the various regions of the coded objects in the bitstream [Fig. 44, 45, 46, col. 20 lines 32-44, col. 32 lines 7-14, 27-35, various quantization-bits information as shown in fig. 44, is utilized to truncate the amount of the bits from the bitstream during the decoding process, Fig. 59, 60].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Simon with Park and Nishiwaki, since one would

have been motivated to control the magnitude of bitstreams and the complexity of a decoder [Park, col. 3 lines 19-20].

As per claim 2, the rejection of claim 1 is incorporated and Park teaches:

the coding step is a scalable coding step to obtain a scalable bit-stream [col. 3 lines 17-20].

As per claim 3, the rejection of claim 1 is incorporated and Park teaches:

the quality information relates to an object reproduction quality [col. 14 lines 26-28].

As per claim 5, the rejection of claim 1 is incorporated and Park teaches:

the quality information is in the form of quality tags (i.e. side information), which are added at given locations in the bit-stream [Fig. 3, col. 10 lines 7-15, 17-20].

Park doesn't expressively mention the quantization information (i.e. quality information) is associated with the bitstream truncation during the decoding.

However, Simon teaches the quantization information [Fig. 44, col. 20 lines 32-35], is associated with splitting and decoding the various regions of the coded objects in the bitstream [Fig. 44, 45, 46, col. 20 lines 32-44, col. 32 lines 7-14, 27-35, various quantization-bits information as shown in fig. 44, is utilized to truncate the amount of the bits from the bitstream during the decoding process].

As per claim 6, the rejection of claim 1 is incorporated and further Park teaches:

the quality information is incorporated in existing fields of a given scalable coding standard [Fig. 3].

As per claim 7, the rejection of claim 2 is incorporated and further Park teaches:

the scalable bit-stream includes several layers and wherein respective layers include respective quality information (i.e. side information) [Fig. 3].

As per claim 9, Park teaches:

receiving the at least one bit-stream [Fig. 4], extracting the quality information from the coded parts of the bit-stream[Fig. 4 col. 13 lines 21-27],

Park teaches obtaining the desired bitrate and distortion (i.e. to obtain the original magnitudes of the signal represented in the bitstream) by adjusting the quantization information [col. 4 lines 50-55]; providing the at least one bit-stream at the desired combination of bit-rate and distortion [Fig. 4, col. 13 lines 27-32] and processing the at least one bit-stream in consideration of the quality information obtained from the coded parts of the bit-stream [Fig. 4, col. 13 lines 35-38, 53-60].

Nishiwaki teaches headers and data parts [Fig. 6B] and the headers include the quality information (e.g. quantization bit) [col. 6 lines 46-51].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Nishiwaki with Park, since one would have been motivated to arrange the data for transmitting and storing in the case of a large amount of digital data [Nishiwaki, col. 1 lines 7-8].

Park doesn't expressively mention truncating the bitstream.

However, Simon teaches the quantization information, included into the header portion of the bitstream [Fig. 44, col. 20 lines 32-35], is associated with splitting and decoding the various regions of the coded objects in the bitstream to obtain the desired quality [Fig. 44, 45, 46, col. 20 lines 32-44, col. 32 lines 7-14, 27-35, Fig. 59, 60, various quantization-bits information is utilized to truncate the amount of the bits from the bitstream to obtain the desired bit-rate and distortion (quality)].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Simon with Park and Nishiwaki, since one would have been motivated to control the magnitude of bitstreams and the complexity of a decoder [Park, col. 3 lines 19-20].

As per claim 10, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above. Further, Park teaches transmitting the bit-stream in which the quality information has been added [col. 14 lines 5-13].

As per claim 11, it encompasses limitations that are similar to limitations of claim 9. Thus, it is rejected with the same rationale applied against claim 9 above. Further, Park teaches decoding the at least one bit-stream at the desired combination of bit-rate and distortion [Fig. 4, col. 13 lines 35-38, 53-60].

As per claim 13, it is a device claim corresponds to method claim 1 and is rejected for the same reason set forth in the rejection of claim 1 above.

As per claim 14, the rejection of claim 13 is incorporated and further Park teaches: a transmitter comprising a device as claimed in claim 13 [Fig. 2].

As per claim 15, it is a device claim corresponds to method claim 9 and is rejected for the same reason set forth in the rejection of claim 9 above.

As per claim 16, the rejection of claim 15 is incorporated and further Park teaches: a receiver comprising a controller as claimed in claim 15 [Fig. 4].

As per claim 18, the rejection of claim 15 is incorporated and it encompasses limitations that are similar to limitations of claim 16. Thus, it is rejected with the same rationale applied against claim 16 above.

As per claim 19, it encompasses limitations that are similar to limitations of claim 1. Thus, it is rejected with the same rationale applied against claim 1 above.

3. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (US Patent No. 6,148,288) in view of Nishiwaki et al (US Patent No. 5,892,848).

As per claim 12, Park teaches:

extracting the quality information from the coded parts of the bit-stream [Fig. 4 col. 13 lines 21-27], decoding the bit-stream to obtained a decoded multi-media object [Fig. 4, col. 13 lines 35-38, 53-60]; processing the multi-media object in dependence on the extracted quality information obtained from the one or more coded parts of the bit-stream whereby the processed multi-media object is reproducible by the reproduction unit [Fig. 4, col. 13 lines 21-29, 35-38, 53-60].

Park teaches obtaining the desired bitrate and distortion (i.e. to obtain the original magnitudes of the signal represented in the bitstream) by adjusting the quantization information [col. 4 lines 50-55]; providing the at least one bit-stream at the desired combination of bit-rate and distortion [Fig. 4, col. 13 lines 27-32] and processing the at least one bit-stream in consideration of the quality information obtained from the coded parts of the bit-stream [Fig. 4, col. 13 lines 35-38, 53-60]. Park doesn't expressively mention the quality information *from the headers* of the coded parts.

Nishiwaki teaches headers and data parts [Fig. 6B] and the headers include the quality information (e.g. quantization bit) [col. 6 lines 46-51].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Nishiwaki with Park, since one would have been motivated to arrange the data for transmitting and storing in the case of a large amount of digital data [Nishiwaki, col. 1 lines 7-8].

As per claim 17, it is a device claim corresponds to method claim 12 and is rejected for the same reason set forth in the rejection of claim 12 above.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (US Patent No. 6,148,288) in view of Nishiwaki et al (US Patent No. 5,892,848) and in view of Simon et al (US Patent No. 4,918,523) and in view of Girod et al (US Patent No. 5,809,139).

As per claim 8, the rejection of claim 1 is incorporated and Park and Nishiwaki don't expressively mention that the bitstream is encrypted and the quality information is unencrypted.

However, Girod teaches the bit-stream is encrypted and the quality information is unencrypted [*col. 5 lines 25-39* "The signal input to the digital watermarking apparatus is divided into its separate components, those being the DCT coefficients for the prediction error portion of the signal (or for intraframe coded data), the motion vectors (if any), and the header/side information of the bitstream. The header/side information (i.e. quality information) is simply passed through to the output of the watermarking apparatus 26 (i.e. unencrypted). The prediction error signal, however, is modified to embed a watermark (i.e. encrypted). The prediction error data is the portion of the bitstream (i.e. bitstream) in which the watermark data is embedded" *col. 3 lines 1-4* "In one alternative embodiment of the invention, an encryption system is used in conjunction with the

watermarking device, such that the signal is watermarked and encrypted prior to being transmitted to the receiver"].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Girod into the teaching of Park, Nishiwaki and Simon to encrypt (i.e. watermark) the datastream. The modification would be obvious because one of ordinary skill in the art would be motivated to achieve copyright protection with the addition of a watermark to the video signal and secure transmission [Girod, *col. 1 lines 16-17*].

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (US Patent No. 6,148,288) in view of Nishiwaki et al (US Patent No. 5,892,848) and in view of Simon et al (US Patent No. 4,918,523) and in view of Shin et al (US Patent No. 6,493,387).

As per claim 4, the rejection of claim 3 is incorporated and park teaches the side information (i.e. quality information) [Fig. 3].

Shin teaches:

the quality information is based on a signal to noise ratio value [Fig. 2 SNR scalable architecture col.1 lines 52-54 "SNR (signal to noise ratio) scalable coding function, which can variably determine picture quality in a predetermined space"].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Shin with Park, Nishiwaki and Simon, since one

would have been motivated to provide coding/decoding function, which determine object quality in predetermined space [Shin, col. 1 lines 51-54].

Response to Argument

8. Applicant's arguments filed December 21, 2006 have been fully considered but they are not persuasive.

Applicant argues that:

Park merely discloses side information having quantization step size information and quantization bit information allotted to each band. However, Park doesn't teach or suggest that the side information is "generated" as in Applicant's claim 1. Park's side information is not analogous or equivalent to Applicant's quality information. Park's quantization step size is not analogous or equivalent to Applicant's quality information.

Examiner disagrees with applicant's remark and still maintains that:

Park's invention provides a scalable audio coding/decoding, which controls the magnitude of bitstreams and the complexity of a decoder, according to the state of transmission channel, the performance of the decoder or a user's request, by representing data for bitrates of various layers in a bitstream. Further, Park teaches coding audio signals to have layered bitrate data of a predetermined number, comprising: a quantizing portion for signal-processing input audio signals and quantizing the same for each coding band; and a bit packing portion for **generating bitstreams by coding side information corresponding to a base layer and the quantized data**, and coding side information corresponding to the next layer of the base layer and the

quantized data, **to perform coding on all layers** [Fig. 2, 3, col. 4 lines 16-32]. The coding steps are performed on **side information having at least quantization step size information and quantization bit information allotted to each band**. The quantizing portion 220 performs scalar quantization so that the magnitude of the quantization noise of each quantization band is smaller than the masking threshold, which is audible but is not perceivable. If quantization fulfilling such conditions is performed, **quantization step size values for the respective bands and quantized frequency values are generated [Fig. 2, col. 7 lines 5-12]**. Therefore, Park teaches generating quality information which indicates distortion of the object (i.e. side information having quantization step size information and quantization bit information) as claimed.

Applicant's **specification discloses the quality information is added as side information to the bit-stream [page 4 lines 8-9, page 6 lines 13-14]**. Similar to applicant's disclosure in the specification, Park's side information, which contains the quantization step size information and quantization bit information, also corresponds to the quality information as claimed. Therefore, it is determined that the side information (having the quantization step size information and quantization bit information) is analogous or equivalent to the Applicant's quality information.

Park teaches the side information having quantization bit information (i.e. the quality information which indicates distortion of the object) [col. 3 col. 3 lines 44-46], the quantization bit information is allotted to each band in the bitstream [col. 4 lines 45-47] and the side information is utilized during the decoding process [col. 4 lines 45-54].

Nishiwaki teaches headers and data parts [Fig. 6B] and the headers include the quality information (e.g. quantization bit) [col. 6 lines 46-51]. Simon teaches the quantization information, included into the header portion of the bitstream [Fig. 44, col. 20 lines 32-35], is associated with splitting and decoding the various regions of the coded objects in the bitstream (i.e. various quantization-bits information as shown in fig. 44, is utilized to truncate the amount of the bits from the bitstream during the decoding process) [Fig. 44, 45, 46, col. 20 lines 32-44, col. 32 lines 7-14, 27-35, Fig. 59, 60]. Furthermore, the examiner recognizes that obviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to on of ordinary skill in the art. See *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ 2nd 1941 (Fed. Cir 1992). In this case, the combination of Park, Nishiwaki and Simon teaches the claimed subject matter and the combination is sufficient.

For the above reasons, it is believed that the rejections should be sustained.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sako et al (US 5506623) --- Data compression methods and systems with quantization distortion measurement means

Wang et al (US 657922) --- Rate control for an MPEG transcoder without a priori knowledge of picture type.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax and phone numbers for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

NBP

3/8/07

KIM VU
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